

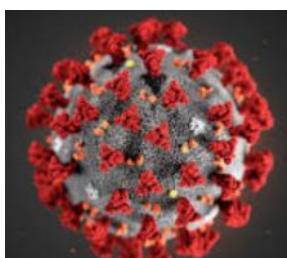


Friends of Science in Medicine

Newsletter 28—17 May 2021

Science versus COVID-19

The 'Spanish flu', lasting from February 1918 to April 1920, infected 500 million people worldwide, killing between 50-100 million. Here, despite a swift quarantine response, it arrived in 1919, infecting about a third of all Australians. Nearly 15,000 died within a year.



In 1918, microbes were just a theory, no medications were available and no vaccines.

On 31 December 2019, the Wuhan Municipal Health Commission, in Hubei Province, China, reported a cluster of cases of pneumonia. A novel coronavirus was eventually identified. The illness was named coronavirus disease 2019, abbreviated as COVID-19.

By April this year, worldwide, nearly 3 million people had died, with or from COVID-19, including 17,000 health care workers.

By the start of December 2020, the developers of several vaccines had announced excellent results in large trials. By February 2021, 66 candidates were undergoing clinical research. Eleven vaccines were authorised for public use by at least one national regulatory authority. On 21 Feb 2021, Sydney grandmother Jane Malysiak was the *first Australian* to be vaccinated.

COVID-19 vaccine development had been expedited via unprecedented collaboration between the multinational pharmaceutical industry and governments. Noticeable is the agreement by the Israeli government to provide, through its national health databases, all clinical data about all recipients and information about any ill-effects, to Pfizer and Moderna, in exchange for priority acquisition of the virus. Some preliminary results were announced late in February 2021. We are all indebted to these two million (to date) Israeli participants.



As the vaccine rollout continues worldwide, and the death rate declines, we should remember that we owe much to scientists and their volunteer subjects around the world for their vision, dedication and hard work to achieve such a prompt response.

Inside this Issue:

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The benefits and risks of the available COVID-19 vaccines



Ken Harvey

Because six women (out of nearly seven million doses administered) had suffered rare but severe blood clots, US health authorities, on 13 April 2021, recommended a pause in the rollout of the one-shot *Johnson & Johnson/Janssen COVID-19* vaccine.

No cases have been reported among the more than 180 million who received the *Pfizer BioNTech* or *Moderna* (mRNA) vaccines.

Other health authorities have made varied responses to similar concerns about the *AstraZeneca* vaccine.

- * Denmark has dropped it.
- * Finland and Sweden restricted it to those aged 65+.
- * Germany, South Korea, Italy, the Netherlands, the Philippines, Portugal, Slovenia, and South Korea restrict to those aged 60+.
- * Canada, Belgium and France restrict to those aged 55+.
- * Australia restricted to those aged 50+.
- * Greece and the UK restrict to those aged 30+.
- * Austria, Estonia, Ireland, Malaysia, and Thailand vaccinate those aged 18 and over.
- * In New Zealand and Switzerland, the *AstraZeneca* vaccine has not been approved for marketing.
- * Approval has not been sought in the US.

These different decisions reflect the difficulties of applying the views of regulators – such as the European Medicines Agency (EMA) and the Australian Technical Advisory Group on Immunisation (ATAGI) – to individual countries' strategies. The regulators agree that:

- * There is a rare, but serious, side-effect causing thrombosis (clotting) with thrombocytopenia (low blood platelet count). This severe reaction, "covid19 vaccine-induced immune prothrombotic thrombocytopenia syndrome" (abbreviated VIPIT), has a mortality of up to 40%.
- * Such clotting reactions have been around one case per 25,000 Norwegians, 1 per 80,000 Netherlanders, 1 per 87,000 Germans, 1 per 150,000 in the European Union as a whole, 1 per 250,000 Britons and 1 per 127,000 Australians; overall, around 1 case per 100,000 vaccinations.
- * There is an increasing risk in older adults (associated with the higher *benefit* from vaccination) and a potentially increased risk in *younger* age groups.

Thus, a decision to continue using the *AstraZeneca* vaccine depends on a risk-benefit analysis. This includes the risk of contracting COVID-19 (short-term and long-term effects) in particular populations, compared with the risk of those groups' experiencing serious side-effects, taking into account the availability of other vaccines.

All these factors complicate decisions about the *Astra-Zeneca* vaccine; the risk-benefit ratio varies between people at different ages and will change if the virus affects more people. This has been represented graphically by the [Winton Centre Cambridge](#).

Our ATAGI prefers the *Pfizer* vaccine for adults aged under 50, but it can be used in adults where the benefits probably outweigh the risks for that individual and the person has given informed consent. Given current limitations on the supply of the *Pfizer* vaccine, the latter situation might apply to people with underlying illnesses which increase their risk of illness from COVID-19 and for workers concerned about a possible breakout in nursing homes.

Weighing up the potential benefits and harms of the Astra-Zeneca COVID-19 vaccine

Potential benefits

For 100,000 people
with low exposure risk

Potential harms

ICU admissions due to COVID-19
prevented every 16 weeks:



Age group

Specific blood clots due to the vaccine:



We are left with three ongoing issues.

First, is the vaccine technology used by both *AstraZeneca* and *Johnson & Johnson*, causing the blood clots? [The jury is still out.](#)

Second, how to diagnose and treat COVID-19 vaccine-induced immune thrombotic thrombocytopenia syndrome (VIPIT). [Guidelines are available.](#)

Finally, why hasn't Australia introduced a no-fault vaccine injury compensation scheme to assist people who experience rare, but serious, side-effects? See: [Indemnity for vaccine manufacturers but not Australians.](#)

Dr Ken Harvey AM, MBBS, FRCPA, President FSM

FSM Executives in the Media

Coronavirus, supplements and hangover cures are some of the topics the FSM Executive was interviewed about or published about since the last newsletter.

- * [Explaining the AstraZeneca blood clots: what are our risks and how do we proceed?](#)
- * [Australia's vaccine roll-out setbacks take shine off its COVID-19 success](#)
- * [The unfolding COVID disaster in PNG](#)
- * [Newsmaker: Orlando Bloom and when wellness mockery turns dark](#)
- * [TGA fines Chemist Warehouse](#)
- * [Some practical answers to COVID-19 vaccine questions](#)
- * [Why the complementary medicine regulatory push was shelved.](#)
- * [Alternative Vs Conventional Medicine || Evidence Based Medicine || Professor Alastair MacLennan AO](#)
- * [Fears of 'borderline unethical' advertising after 75% of older Australians found to be taking supplements](#)
- * ['Madness': Immunologist criticises 'premature' call to hold the Australian Open](#)
- * [Hangover products still advertised despite complaints and lack of evidence](#)

Astrology—was Hippocrates wrong?

Often referred to as the ‘Father of Medicine’, [Hippocrates](#) is often quoted as saying “*he who does not understand astrology is not a doctor but a fool*”. Born in the 5th Century BC, he is credited with coining the still relevant 2,500-year-old oath. He is portrayed as the paragon of the ancient physician and with having greatly advanced the study of clinical medicine. So, why is this ancient art not a credible discipline today?



Astrology has a 5,000-year history. Originally a guide for planting crops and as a source of identifying ‘omens’ to guide politicians, later developments included zodiac signs and horoscopes.

[Almost 73% of us may believe that astrology is valid.](#) Over 90 percent of adults know their zodiac sign. Horoscopes appear regularly in magazines and newspapers world-wide.

Medical Astrology supposedly helps to diagnose, using ‘signs, houses and planets’. Practitioners claim that the causes of illness can be known well before their actual appearance in one’s body. They also claim that the planetary positions can lead to severe ill-health and predict death.

With the world’s population nearing 8 billion people, 650 million share your zodiac sign. They should share your personality and your ‘Astrological Medical’ diagnosis.

In 1985, science graduate Shawn Carlson published “[A double-blind test of astrology](#)” (*Nature* **318**, 419–425; 1985).

He challenged one of the fundamentals of astrology – that your birth date and time predicted aspects of your personality.

The project enlisted the USA’s ‘top’ astrologers. These were selected by asking a group of high-profile astrologers to name astrologers they esteemed highly.

The study included 28 practising astrologers and people with psychology PhD’s. They agreed to match more than 100 natal charts to psychological profiles generated by the [California Psychological Inventory](#) (CPI), a standard and well-accepted personality test. The astrologers had agreed that the experimental protocol was a ‘fair test’.



Shawn Carlson

Funded by the [National Science Foundation](#), approval was given to pay these astrologers for preparing the charts. Doing enough tests to be able to exclude the astrology hypothesis to better than a 98% confidence level, Carlson showed that these top astrologers could do no better than chance. His research is widely regarded to be the most comprehensive to date.

With publication in this major journal, astrology was discredited. In 1999, Carlson was awarded a [MacArthur Fellowship](#), commonly known as the ‘Genius Grant’, for this and other outstanding work.

This *Nature* publication was, by itself, sufficient reason to eliminate astrology from the academic curriculum.

Loretta Marron OAM, CEO, FSM



Fishing for evidence on omega-3s and dry eyes



Omega-3 supplements are claimed to help dry eyes. Some websites advise people accordingly. While early trials seemed favourable, a recent trial casts doubt on their usefulness.

Are they the ‘new vitamin C’? These fats, common in fish and flaxseeds, are regarded as superheroes. Arthritis? Try omega-3s! Avoiding cancer? Try omega-3s! Your car won’t start? Have you tried omega-3s?



Jonathan Jarry

Tears tend to dry: We produce a tear film, which, when we blink, spreads over our eyeballs. It is not salty water, but is complex, like a multi-layered mattress. A thick, watery middle layer washes away particles. Above that is an oily layer preventing evaporation. A mucus layer touching the cornea attaches the tear to the eye.

Age, hormones, contact lenses, certain medications, corneal refractive surgery like LASIK, destabilise the film. The equilibrium between its components is lost. Water evaporates quickly, tears become too salty, and the cornea inflamed – dry, irritating, and burning.

While they are no cure, artificial tears help temporarily and incompletely. Since omega-3s are anti-inflammatory, researchers wondered if they could reduce inflammation.

Inconsistent results: For a while, it looked, both subjectively and as measured, as if they could. A [2017 systematic review of 15 clinical trials](#) showed that, while most showed improvement on one objective test, only a minority were positive on a second, and about half reported symptomatic improvement.

The studies had issues. They tended to be small or involved a single location. Some were short or funded by the manufacturers. They rarely measured omega-3 intake before the trial.

Some large positive trials came out of Northern India. The authors have pointed out, however, that the local, mainly vegetarian diet tends to be low in omega-3s. It’s possible that, as with vitamin deficiencies, remedying a deficiency might improve symptoms; but giving them to someone not needing them has no effect.

In 2018, the *New England Journal of Medicine* published the results of a [major, multicentre trial](#), with more than 500 participants, pitting 3,000 mg of omega-3 supplements against olive oil. This ‘real-life’ trial, less restrictive than past studies, allowed participants to continue their treatments. The results were negative. The authors launched a ‘fishing expedition’ of 18 subgroup analyses. All were negative.

One criticism was that olive oil might not be inert after all. Doesn’t it contain anti-inflammatory molecules, like oleic acid and polyphenols, staples of the much-heralded ‘Mediterranean diet’? What if both the omega-3s *and* the olive oil improved symptoms? But the refined olive oil had low levels of polyphenols, and the Mediterranean diet contains twelve times the daily olive oil given to the participants. And, curiously, sticking to the Mediterranean diet was shown, in another study, [to increase the risk of older men developing dry eyes!](#)

The evidence [has been called “inconsistent”](#). Early positive trials were small and restrictive. The larger positive trials were conducted in a population likely to be deficient in omega-3s. And the biggest and most robust trial was undeniably negative.

The risks of supplementation bear mentioning. [An excess could cause bleeding](#). People with bleeding disorders should consult their doctor. There might be a link between high concentrations of omega-3s and prostate cancer.

The capsules are inexpensive (\$5 CAD monthly). I sympathise with sufferers wanting to try them. From an evidence-based perspective, we are witnessing the common ‘Proteus phenomenon’: early studies are small and positive, while later studies are big and negative, cutting through the noise.

Jonathan Jarry MSc (<https://jonathanjarry.com/>)

Another useless acupuncture trial!

Same as, same as... Yet another badly designed, unethical trial touting the efficacy of acupuncture. [From the Memorial Sloan Kettering Cancer Center](#) (MSK), whence patients would expect high quality trials. As with the many showing ‘a positive outcome’, there is no placebo control. Is there more to this than meets the eye?

MSK has promoted [alternative medicine](#) for many cancer-related symptoms. Their justification for bypassing placebos is “[studies have shown that acupuncture can help with pain, fatigue, insomnia, neuropathy, and nausea](#)”. This is not true! No properly designed studies exist.



Loretta Marron



Acupuncture has zero plausibility, being based on a false hypothesis: fine needles are inserted into specific ‘acupoints’ to adjust our ‘life force energy’. The oldest texts claim 365 acupoints – one for each day of the year. It is essentially astrology. The WHO acknowledges that there is no agreement on the location of these points. Bottom line: they [don’t](#) exist!

An imbalance of ‘*Chi*’, the undetectable, unmeasurable ‘energy’ flowing between and through these points along invisible ‘meridians’, causes illness. This defies anatomy, physiology, neuroscience, biochemistry and physics. Despite a long tradition of ‘healing’ patients, heavenly forces are *not* at work.

Relying on the placebo effect, it does not matter where the needles are stuck. Simulated acupuncture, with [tooth picks](#) or [‘placebo needles’](#), is just as effective.

Despite thousands of studies over many decades, there is no robust evidence that acupuncture is effective for anything. Internationally respected [Cochrane reviews](#) fail to demonstrate its efficacy. The MSK [“study does simply not show what the authors conclude”](#).

How should researchers prove that interventions work? They need a testable hypothesis followed by ethically appropriate and properly designed studies. This MSK study fails. It was not designed to prove that acupuncture works, but to promote ‘alternative medicine’ and perhaps, to get more insurance coverage for cancer survivors’ receiving acupuncture.

Loretta Marron OAM, CEO, FSM

Australian Vaccination-risk Networks/Misty Mountain Health Retreat Good news!

[YouTube has removed the Australian Vaccination-risk Networks Inc YouTube channel.](#)

“Hi Australian Vaccination-risk Networks Inc.,



We have reviewed your content and found severe or repeated violations of our [Community Guidelines](#). Because of this, we have removed your channel from YouTube.

We know that this is probably very upsetting news, but it’s our job to make sure that YouTube is a safe place for all. If we think that a channel severely violates our policies, we take it down to protect other users on the platform - but if you believe that we’ve made the wrong call, you can appeal this decision.

[The ACNC website says that the Misty Mountain Health Retreat has had its charity registration revoked](#)





Therapeutic Goods Administration (TGA) and CAM Column by Mal Vickers

St John's Wort—safety issues ignored



Mal Vickers

There's good evidence that St John's Wort (SJW, *Hypericum perforatum*) is effective for [major depressive disorders](#). As such, it is much admired by complementary medicine proponents. However, on closer inspection, there are problems. SJW diminishes the effectiveness of many commonly prescribed medicines, notably for heart diseases and [oral contraception](#). Because SJW is 'regulated' as a complementary medicine, neither consultation nor prescription is needed. With a credit card, anyone can purchase on-line. For example, [Blackmores](#) offer SJW-containing formulations direct from their website.

In 2005, the Therapeutic Goods Administration (TGA)'s Complementary Medicine's Evaluation Committee (CMEC) recognised that interactions were potentially a safety issue. The TGA determined that consumers must be warned *prior* to purchase: [packaging must read](#) "*St John's Wort affects the way many prescription medicines work, including the oral contraceptive pill. Consult your doctor*". The regulations also require this warning to be *prominently displayed* in on-line advertising.



I set out to investigate; were the suppliers complying? If they weren't, would the TGA be interested in the dangers?

I quickly found five instances of on-line advertising (including the click-to-purchase function), but no warnings. Probably the worst offender was Mr Vitamins (registered in NSW). In October 2020, they were advertising twelve SJW-containing products, with no warnings.



In early October 2020, I submitted five detailed complaints, directing the TGA to the problem websites. Because consumer safety was at risk, I felt that the complaints might gain the TGA's attention. I was wrong.

The TGA's automated e-mails notified me (Nov 2020) that it had closed all complaints without reaching a determination. My complaints were to be used as 'intelligence' – whatever that means. This bulk dumping of complaints appears to be a response to the [Sinclair Review](#) (published August 2020), which recommended a 're-set' of the complaints system. Other FSM colleagues have noted that their complaints were purged in Nov-Dec 2020; never mind that the issues raised might adversely affect people's health.

At the time of writing, the compliance score is one out of five. Blackmores gets a *small* tick, with a visible, but not (as required) prominently displayed, warning. The other four have done nothing. Consumers using those websites have no idea that they might be risking an unwanted pregnancy or a dangerous heart problem because SJW makes their medications less effective.

How many times do we need to tell the TGA?

This is not good enough! Do your job; deal responsibly with complaints!

Mal Vickers, Researcher, Monash University School of Public Health.



Veterinary Medicine and CAM Complementary and Alternative Medicine and the law

Why, given that the Law, codes of conduct and professional ethics demand that the first priority of the veterinarian is the health and welfare of animals, do some veterinarians, whose practise should be science-based, employ ineffective and implausible ‘interventions’?

In NSW, for example, the Veterinary Practitioners Code of Professional Conduct (cl 4) states “Veterinarians must maintain current knowledge of current standards, carry out procedures in accordance with those standards, and base professional decisions on evidence-based science or well-recognised knowledge and practice or both”.



Tanya Stephens

Although most ‘Complementary and Alternative Veterinary Medicine’ falls outside of this, ‘alternative’ veterinarians are seldom subject to complaints testing this legislation. We can only assume that users are non-complainants and trust veterinarians. Most people are not scientifically literate. It is likely that pet owners using these services use ‘alternative medicine’ themselves.

Although companion animals are classified as privately owned chattels (like your car), legislation for their protection recognises their suffering when ill-treated. Their intrinsic interests must be protected. Personal property rights are limited to benefit the animals’ interests.

In NSW animals are protected by the [Prevention of Cruelty to Animals Act](#) (POCTA). The police, Animal Welfare League and RSPCA can prosecute. An interesting part of the POCTA Act (section 21A) prohibits ‘firing’. ‘A person who applies a thermal stimulus (such as hot wires) to the leg of an animal with the intention of causing tissue damage and the development of scar tissue around tendons and ligaments of the leg is guilty of an offence’. Firing is a painful and ineffective Middle Ages intervention for horses’ tendon injuries.

Moxibustion, a Traditional Chinese Medicine intervention uses several methods including burning the skin until it blisters and is also used indirectly with acupuncture needles. Is moxibustion “the application of a thermal stimulus”?



It is difficult to gauge how much moxibustion is used here. However the Australian College of Integrative Veterinary Therapies had a seminar on using moxibustion (civtedu.org). This year, until removed because of complaints, moxibustion was on a veterinary conference program.

Moxibustion is one of many bizarre and ineffective interventions. Are acupuncture, homeopathy, chiropractic, Bach flower remedies et al really harmless? Do they deprive animals of proper and appropriate care – an ethical issue for veterinarians charging for ineffective interventions?

Does this use of alternative interventions contravene the Law? Could some be classified, under the POCTA Act, as ‘cruel’? Do we view veterinary practitioners of these interventions as ‘harmless’ to avoid confrontation with these colleagues?

When does being polite conflict with a need to protect animals? Veterinary professional bodies and legislators should bring the issue of ineffective and ‘alternative’ interventions onto their agendas. All veterinarians need to embrace evidence-based therapies. The continued use of ‘complementary and alternative veterinary medicine’ risks damaging the health and welfare of the animals and the reputation of the profession.

Tanya Stephens BVSc (USyd) MSc IAWEL (Edin) MANZCVS (Animal Welfare) FRCVS.

Pharmacy 2021: Can it be saved?

It is some months since I sold my pharmacy – a business of which I was proud.

It was known for traditional customer service and trusted for a sincere approach to evidence-based professionalism. We were a bit ‘upmarket’ – we had given away loss-leader specials bins decades ago. The dispensing and supply of medicines with appropriate advice ensured that we had a grateful and trusting clientele. We did not stock homeopathics, magic diet pills, dubious foot massagers, or ear candles. If a patient enquired about the latest ‘miracle cure’, I accessed databases to investigate and assess. I was rarely able to recommend one.

My business, bought by pharmacists in league with a well-known banner group, immediately, underwent a transformational re-fit. Previously spacious – (for some visitors “the nicest pharmacy they had seen”) – is packed to the rafters with rows of retail gondolas loaded with the new company’s mandated items, including – no surprise – homeopathics, magic diet pills, and one complete wall of every type of ‘supplement’ imaginable – and a few not.

I commenced practice in community pharmacy forty years ago optimistic about its future. The 1990s brought the immense resources of the Internet, with immediate access to the best drug and medical information. We could have seized the opportunity to dedicate ourselves to science and been equal partners with other health professionals. But we have been defeated by intransigent leadership, big money, government and Board inaction and the marketeers.

While the medical profession embraced and advanced evidence-based practice (and pharmacy students been made fully cognisant of its principles), Pharmacy, to its shame, is in thrall to hucksters and pseudoscience. I mourn for opportunities wasted.

Despite post-WW2 legislation aimed at limiting corporate pharmacy ownership in favour of independent practice, loopholes have made a swiss cheese of the original intent. The pharmacist – even if a supposed ‘partner’ – is beholden to the brand’s management company. It owns the lease, makes the deals, stocks the shelves, provides the advertising and demands total conformity to the brand’s vision and deals.

Individual pharmacist ‘partners’ are often supervised (controlled by?) non-pharmacist retail *uber*-managers, certainly in front-of-shop matters. Discount structures drive down wages and conditions, making the pharmacy degree a less attractive option for talented students.

What hope then for the Pharmacy Board’s Code of Conduct? “2.2 Good Care (requires)

- “h. providing treatment options based on the best available information and not influenced by financial gain or incentives. ...”
- “n. practising in accordance with the current and accepted evidence base of the health profession, including clinical outcomes. ...”
- “p. facilitating the quality use of therapeutic products based on the best available evidence and the patient or client’s needs.”

Perusing documents from the Pharmacy Board or the Pharmaceutical Society (the peak professional affairs body) you will find all the right words. However, I am not aware of any pharmacist being taken to task for promoting the outrageous fictions of the ‘complementary medicine’ industry.

I alert you to the false economy of trusting your health to the cheapest discount chains. They are cheap because they churn. On holiday recently, I had to patronise one such place. I bought the ‘Pharmacist Only’ item I needed without any of the pharmacist intervention required by law.

Although now an ex-pharmacist, I will continue to take a keen interest. GO SCIENCE IN MEDICINE!!!

(Name withheld)

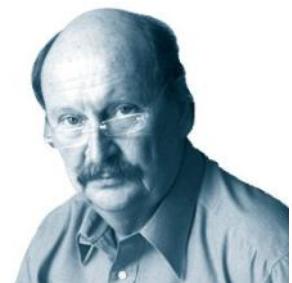


A SPECIAL REPORT FROM EDZARD ERNST

Chinese Herbal Medicine for COVID-19? The evidence remains unconvincing

The Chinese have made several attempts to persuade us that their traditional remedies are effective for COVID-19 infections. Here is yet another one. [This review](#) summarised the evidence of the therapeutic effects and safety of Chinese herbal medicine (CHM) used with or without conventional western therapy for COVID-19. All clinical studies of the therapeutic effects and safety of CHM for COVID-19 were included. The authors

- * summarized the general characteristics of included studies,
- * evaluated the methodological quality of the randomized controlled trials (RCTs) using the Cochrane risk of bias tool,
- * analyzed the use of CHM,
- * used Revman 5.4 software to present the risk ratio (RR) or mean difference (MD) and their 95% confidence interval (CI) to estimate the therapeutic effects and safety of CHM.



Edzard Ernst

A total of 58 clinical studies were identified including;

- * 10 RCTs,
- * 1 non-randomized controlled trials,
- * 11 retrospective studies with a control group,
- * 12 case-series,
- * 24 case-reports.



All of the studies had been performed in China. No RCTs of high methodological quality were identified. The most frequently tested oral Chinese patent medicine, Chinese herbal medicine injection, or prescribed herbal decoction were *Lianhua Qingwen granule/capsule*, *Xuebijing injection* and *Maxing Shigan Tang*.

The pooled analyses showed that there were statistical differences between the intervention group and the comparator group (RR 0.42, 95% CI 0.21 to 0.82, six RCTs; RR 0.38, 95% CI 0.23 to 0.64, five retrospective studies with a control group), indicating that CHM plus conventional western therapy appeared to be better than conventional western therapy alone in reducing aggravation rate. In addition, compared with conventional western therapy, CHM plus conventional western therapy had the potential advantages in increasing the recovery rate and shortening the duration of fever, cough, and fatigue, improving the negative conversion rate of nucleic acid test, and increasing the improvement rate of chest computerized tomography (CT) manifestations and shortening the time from receiving the treatment to the beginning of chest CT manifestations improvement.

For adverse events, the pooled data showed that there were no statistical differences between the CHM and the control groups.

The authors concluded that *current low certainty evidence suggests that there maybe a tendency that CHM plus conventional western therapy is superior to conventional western therapy alone. The use of CHM did not increase the risk of adverse events.*

One of the principles to remember here is this: RUBBISH IN, RUBBISH OUT. If you meta-analyze primary data that are rubbish, your findings can only be rubbish as well.

All one needs to know about the primary data entered into the present analysis is that there were no rigorous RCTs... not one! That means the evidence is, as the authors rightly but modestly conclude of LOW CERTAINTY.

My conclusions would have been a little different:

1. In terms of safety, the dataset is too small and unreliable to make any judgment.
2. In terms of efficacy, there is no sound data that CHM has a positive effect.



RECENT RELEVANT PUBLICATIONS BY FRIENDS

Edzard Ernst

- * [German homeopathy has just reached a new low](#)
- * [No evidence that spinal manipulation improves immune function](#)
- * [Web-based information about so-called alternative medicine \(SCAM\)](#)
- * [Herbal treatments might shorten breast cancer survival](#)

Alan Levinovitz

- * [They Swores by the Diet I Created — but I Completely Made It Up](#)
- * [Natural by Alan Levinovitz review – the seductive myth of nature's goodness](#)

Jonathan Jarry

- * [The Carnivore Diet: A Beefy Leap of Faith](#)

Timothy Caulfield

- * [An open letter to Alternative Medicine](#)
- * [COVID-19, science and the uncertainty dance](#)
- * [Disrupting the cycle of misinformation](#)

Forbes: Steven Salzberg

- * [No, We Don't Need To Talk About The AstraZeneca Vaccine](#)
- * [We've Crushed The Flu This Year](#)

Science-based Medicine

- | | |
|---|---|
| * | Steven Novella Update on AstraZeneca Vaccine and Blood Clots |
| * | Harriet Hall Lose Weight without Diet or Exercise? Where's the Proof? |
| * | David Gorski Antivaxxers, COVID-19 vaccines, and “hacking the software of life” |
| * | Clay Jones Adverse Events Linked to Pediatric “Alternative Medicine” in the Netherlands |
| * | Scott Gavura Ivermectin is the new hydroxychloroquine |
| * | Jann Bellamy Consumer and public health groups push for cancer warning on alcoholic beverages |

Respectful Insolence (David Gorski)

- * [No, mRNA COVID-19 vaccines do NOT “hack the software of life”](#)
- * [“Real world evidence” vs. COVID-19?](#)

Skeptical Raptor

- * [COVID-19 vaccine facts and myths – UPDATED info about the new vaccines](#)
- * [COVID-19 Light Therapy: Old quackery repurposed](#)

Skeptical Inquirer

- * [Richard Dawkins: Science: The Gold Standard of Truth](#)

The Question of Science Institute (IQC)

- * [President of IQC debates Alternative Medicine at the Global Congress of Scientific Thinking](#)

We would like to ask our supporters
to alert their friends to the important role being played by

Friends of Science in Medicine

and to encourage them to join as a Friend or add their support in other ways.

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New Book:

Fake Medicine:

Exposing the wellness crazes, cons and quacks costing us our health



Brad McKay

Dr Brad McKay, GP and experienced science communicator, investigates the myths, scams and fads of modern health and wellbeing.

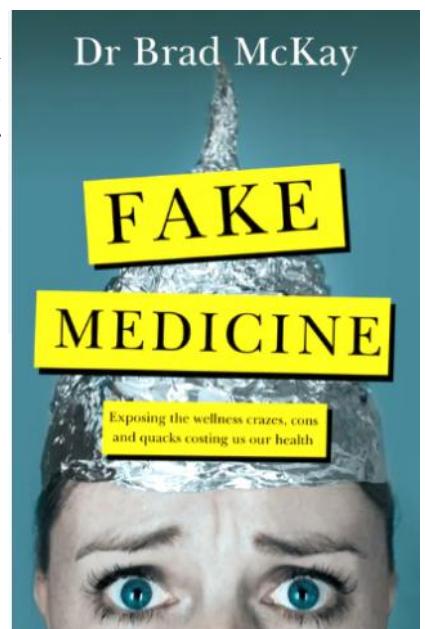
We all want to live healthier, happier and longer lives, but too many of us are charmed by charlatans, misled by marketing or scammed by sciencey-sounding salespeople.

Dr Brad McKay, Australian GP and science communicator, has seen the rise of misinformation permeate our lives and watched as many of us have turned away from health experts. Too

often, we place our trust in online influencers, celebrities and Dr Google when it comes to making important health decisions.

Fake Medicine explores the potential dangers of wellness warriors, anti-vaxxers, fad diets, dodgy supplements, alternative practitioners and conspiracy theories.

This book is an essential tool for debunking pseudoscience and protecting you and your loved ones from the health scams that surround us. Protect your mind, body and wallet by fighting fake medicine.



Review by Edzard Ernst: ["A new book on 'Fake Medicine'"](#)